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THE WELLCOME INSTITUTE FOR THE HISTORY OF MEDICINE

MATERIA ♦ MEDICA

A NEW CABINET of MEDICINE and ART



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A NEW CABINET *of* MEDICINE *and* ART



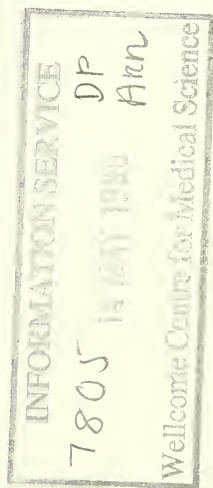
AN EXHIBITION
at the
WELLCOME INSTITUTE
FOR THE HISTORY OF MEDICINE

November 1995

KEN ARNOLD
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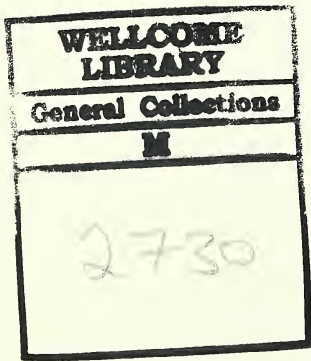
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Materia medica

AN EXHIBITION AT THE INTERSECTION OF MUSEUMS, MEDICINE AND ART

This exhibition brings together three intimately connected worlds: those of museums, medicine and art. Museums are represented both in the form of presentation – an exhibition – and in the references to the museum’s early history in the show’s sub-title and design. Medicine, broadly speaking, is the subject of all the exhibits on show, from John Bellany’s self-portraits produced shortly after his transplant operation and Deanna Petherbridge’s mysterious piece ‘Mary Approaching’, to the phrenological concerns evident in Thomas Napper’s video and the anatomical wax models chosen by Michael Esson and Jane Fallows. As for art: diffracted through the extraordinary array of materials and styles on show, it is universally present as the medium for these medical messages.

The exhibits have been selected by eight artists who were asked to assemble a cabinet of works reflecting their own interests in medicine – interests already evident in their own work. In presenting a range of contemporary pieces, some produced specifically for the exhibition, *Materia medica* reflects just how inspiring the interactions between these three fields are for a number of artists working today. The range of historical material exhibited also makes it abundantly clear that this has also very much been the case in the past.

This conjunction of museums, medicine and art has then been forged over many centuries of cultural interaction, and this exhibition also provides a narrow gap through which to view selected highlights of that history. Towards these ends, each of the contributing artists was encouraged to rummage among the remnants of that history, and to select and exhibit alongside their own works historical artefacts that survive in repositories that house medical historical collections. In other words, these eight artists were invited temporarily to

act as exhibition curators, choosing and presenting material for display. To give them maximum access to the widest possible visual record deposited by this history they were given free access to the monumental Wellcome collections – the library materials kept at the Wellcome Institute and the museum objects now on permanent loan to the Science Museum.

Filtered as it is through the idiosyncratic interests and visual acuities of these artists, the primary focus of the exhibition is the human body. It also, however, provides an insight into the knotted interrelationships between art, medicine and museums, drawing on the visual bonds that tie each to the other.

OVERLAP I: ART AND MEDICINE

Since the Renaissance, many types of medical images have been invented, developed, refined, and abandoned in conjunction with evolving notions of the body's form and function. New medical disciplines and specialisations gave rise to new conventions of representing the body; exclusive attention to surfaces and senses, to parts and organs, to structures, functions and systems all spawned different visual treatments. In addition, technological innovations in printing, photography, X-rays, scanning techniques, as well as in the distribution and dissemination of images, have further fractured pictures that were once produced by an individual employing a single drawing implement.

This scientific tradition of image production has left medical history with an abundantly full archive. Added to this is medicine's material culture – everything from specimen jars and surgical instruments to hospital buildings – which is itself of intrinsic aesthetic appeal, and the volumes of artworks produced by artists who have habitually concerned themselves with health and its challenges. The result of these accumulations is a staggeringly rich visual resource for the history of medicine, much of it at least, represented in the Wellcome collections.

Fully exploited in this exhibition, this material points up a curious gap in much medical history. For tempting as it might be to treat it as such, all these visual resources add up to far more than just a pleasant illustrative accompaniment to a history that is primarily recorded in printed and manuscript sources. These pictures, models, plans, carvings, preparations and so forth constitute very

much the stuff of a significant slice of medical history, and as such need to be much more scrupulously examined.

OVERLAP II: MEDICINE AND MUSEUMS

The cradles for some of the first European museums were provided by the apartments and work places of medical men; many of their curators came from the healing professions, or at least held medical degrees; and much of their *raison d'être* was initially medical. The very earliest examples of such cabinets in Renaissance Italy were formed in an attempt to manage the influx of materials uncovered in a variety of investigative and acquisitive projects: voyages abroad, the excavation of unknown treasures underground, a newly empirical approach to natural history and a critical assessment of medicinal materials, be they animal, vegetable or mineral. Many of the objects the collectors working on these projects found were understood in terms of medical 'principles' that were held to correspond to particular functions and parts of the human body. The museums they formed to house them provided obvious workshops in which to study arrays of *materia medica*, an object category that for a number of early collectors knew no bounds except the world's own.

The natural alliance between curiosities and cures threaded its way throughout much of the early history of museums. Thus Hans Sloane, whose collections formed a cornerstone of the British Museum founded in 1759, gained his taste for collecting during his early training as a doctor. Later in the eighteenth century, the prominent medical figures of John and William Hunter further exercised this medical passion for collecting and curating. Both brothers founded museums: John's comprised among other exhibits a huge array of alcohol-filled jars of dissected and prepared specimens used in his research, while William expressly set up his to enrich the teaching of anatomy.

This didactic component of the medicine-museum bond largely determined the next phase of the relationship. During the eighteenth century many cabinets comprising entirely of samples of *materia medica* were formed and used as core teaching. The role of museums became more and more exclusively focused on this educational function during the nineteenth century, with a simultaneous reduction in the use of

medical museums for research purposes. By the end of the nineteenth century, most of the Royal and learned medical societies in Europe and America had gathered collections for such didactic ends, more than a few surviving intact to this day.

One man with an omnivorous collector's passion managed single-handedly to usher in a new era in the history of medical museums: Henry Wellcome. The size of his collections was extraordinary, reaching the proportions of a national collection by the 1930s. Ranging chronologically from pre-history to his own day, they included such unlikely 'medical' objects as weapons, fabrics, furniture and potsherds, as well as the more obvious experimental equipment and surgical instruments. His Historical Medical Museum was in fact meant to be nothing short of a 'Museum of Man', covering all periods and all parts of the world.

From the late-nineteenth century, collections-based museums such as Wellcome's were joined by museums and exhibitions mounted by nation-states and local governments for propaganda purposes. In them medicine was used as a tool for educating the public in such aspects of proper citizenry as sanitation, hygiene and health. The best known example of such an institution in Britain was the Parkes Museum of Hygiene, founded in 1879 – designed, as a 1953 *Guide to London Museums and Galleries* described it, "for instruction in all matters connected with public health".

This considerable legacy of medicine in museums – first exploited as a means of investigating the medicinal properties of *materia medica*, then used to enrich medical education, next employed as a criteria for the collecting passions of wealthy pharmaceutical men, and finally presented as public propaganda – stands as the second building block for this exhibition.

OVERLAP III: ARTISTS AND MUSEUMS

Over the past decade, artists have been involved in curating a number of important exhibitions in museums around the world. In 1985, Eduardo Paolozzi worked with the then-keeper of the Museum of Mankind, Malcolm McLeod, to create the ground-breaking exhibition 'Lost Magic Kingdoms'. Since 1991, the film maker Peter Greenaway has curated no less than seven major exhibitions all over Europe. In America, the artist Fred Wilson has worked on exhibi-

tions in museums as far afield as Baltimore and Seattle, while Joseph Kosuth has put on an exhibition about the politics of censorship at Brooklyn Museum in New York. The work of artist-curators has not just been restricted to temporary projects either: in Vienna, Peter Noever has directed the reinstallation of the city's decorative art collections, and the painter Horia Bernea has displayed the collections of the Museum of the Romanian Peasant in Bucharest.

By virtue of having their agendas and sensibilities formed more without than within museum walls, these artists have frequently been able to surprise, take chances, pose questions and ruffle feathers in what have often been essentially conservative institutions. These projects have also raised a number of interesting issues within the museum world.

First, exhibitions curated by artists have tended to reinvigorate our sense of the power and even magic inherently present in many museum collections, showing just how readily that magic can be released when a different profession, equally convinced of that power, is allowed to make displays from this raw material. When they work well, these projects have evoked an exciting sense of rediscovery as collections are offered up for inspection in an entirely new way – thus making it all the more clear why museums should carry on collecting and showing interesting objects.

Second, these projects have also helped to displace museums from a traditional position of authority, handing down wisdom from on high. Artists, who after all have rarely been the best loved of individuals in the museum world, have in these cases been given the power that curators have commonly guarded for themselves. And where the standard museum convention has kept exhibition researchers, writers, designers and constructors anonymous, these shows have highlighted what can be gained from acknowledging an individual author's voice. Artist-curated exhibitions in this way are helping museums explore the implications of providing soapboxes for creators with explicitly personal agendas.

Finally, artists also tend more readily to think of themselves as 'show-people' than museum professionals. Consequently, they have approached exhibitions as if they were stages from which to address audiences directly, and this often through a higher level of theatricality – trickery in the best sense of the term – than that used in most museums. This difference in perspective has produced a dynamic working relationship between artists and museum staff that has yielded some unusual and thought-provoking results. In the case of *Materia medica* these collaborative ten-

sions have resulted in a far more personalized form of medical history than has been evident in many of the other exhibitions mounted in the same space.

The aesthetic treasures present throughout the history of medicine, the medical concerns evident in much of the history of museums, and the enrichment of current museum work by practising artists: these are the fertile overlaps feeding this exhibition, and it is at the intersection of all three that it is built. The result represents both an extraordinary array of exhibits – old and new, beautiful and bizarre, concrete and abstract – all worthy of contemplation in their own right, and, as the foregoing indicates, some very suggestive material with which to begin to understand the mutual lines of influence between museums, medicine and art.

KEN ARNOLD

Materia medica

SHOWING IT FOR REAL

If we are attempting to define what we mean by ‘medical art’, it is difficult to know where to draw the boundaries. Any image that is made to perform some kind of role in how we perceive our bodies and alter our state of health can potentially be included. There are few civilizations, past and present, which have not produced such images. The broadest definition of medical art would include not only the obvious illustrative material in the Western tradition, such as the great picture-books of anatomy and photographs of surgical procedures, but also talismanic objects that are meant to affect some change in our well-being through invisible agencies. I am thinking of such items as a witch-doctor’s magic charm or an altarpiece containing an image of the plague saint, St Roch.

For our present purposes, the broad definition provides a wholly impractical remit, and we are concentrating largely on the European tradition from the late Middle Ages (or early Renaissance) to the modern era. The practising artists who are making their own visual interventions, both through their works of art and through the particular kinds of ‘eye’ they have brought to bear upon the historical material, are inevitably immersed in the Western medical tradition, subject as I am to its procedures from birth to death. Yet the viewpoints are not wholly those of insiders. It is one of the roles of artists to provide perceptions that affect how we see things, to stand both inside and outside. Choices, advertant and inadvertant, are always made in depicting what is perceived. Even the specialist medical artist, providing a functional illustration of, say, an anatomy book for junior doctors (1.12), is indulging in a highly-selective form of visual pointing, which involves a series of value judgements about what is important in relation to the perceived needs of the spectators. All the present contributors have consciously considered in their different ways where they stand in relation to accepted values.

Different spectators, particularly those from different historical or ethnic cultures, will work with images within different frameworks of expectation and knowledge, frameworks that may entirely transform the original function. Looking at representations of medical practice and illustration from past cultures we may think that we are looking at evidence about the medicine of other ages, but this 'evidence' needs to be interpreted with the greatest discretion. It is not simply a constant. What every apparent 'illustration' conveys is dependent upon a series of intersecting variables. These include, most conspicuously, the purposeful choices of those involved in making the images in intellectual, social and artistic contexts of their generation, and the transformative interpretations which spectators at greater and lesser remove from those contexts bring to the image. The present enterprise involves transformative looking on two fronts. The first is that of the artists who are entering into rich dialogues with the images of the past and exercising leverage on our present perceptions of medicine – its subjects, its practitioners, its institutions, its paraphernalia, its visual detritus. The second is that of the historian, myself in this instance, who is ostensibly concerned with a drier enterprise, namely the reconstruction of the original 'message' of the images in terms of functions, intention and contemporary reception. This reconstruction will involve asking about the makers of the images, their motivations (overt and covert), their procedures, the media to which they had access, the available vehicles for broadcasting images, the particular role of visual imagery in any era (particularly in relation to verbal records), and the parameters within which contemporary viewing took place.

Yet this contrast between the artist and the historian is too sharply drawn. The historian, no less than the artist, plays perceptual hunches in attempting to affect how we look at images of the past. The contrast is less in terms of intuition but more in terms of the purpose of the end product. In the work of art the dialogue between the artist's intuition and the spectators' perceptions is what becomes the focus of the activity, and the intuition is not ultimately brought to book in terms of scholarly rigour – though considerable scholarly rigour may be employed by some artists in reaching their ends. The product of the historian, on the other hand, is designed to stand up to some kind of scholarly matching with the record which survives, albeit erratically, from the past. The historian's model of the past, however much the product of imaginative intuition, should present

itself in such a way that the mechanisms of matching are transparently apparent. My text, in this essay, is therefore, designed to give an idea of the *type* of eye and intellectual enquiry that a visual historian brings to the material, which the artists have drawn out of the vast resources of the collections of the Wellcome Institute and a few related collections in London. My intention is to move from relatively technical questions of the how and what of representation to the human presence, which must ultimately lie at the heart of art and medicine.

FROM THE SCALPEL TO THE PEN

Virtually all the items we regard as ‘medical art’ were concerned with what I am calling ‘showing it for real’. I do not mean the ‘real’ simply in terms of the kind of accuracy of representation that has been one of the goals of medical illustrators since the Renaissance but more widely in terms of what is perceived at any one time to be the reality of how the body functions, both in itself and in relation to external agencies. Thus, for someone who believes that the state of the body and mind is under the unavoidable dominance of the stars, the designation of astrological signs as governing different parts and functions of the body is as real as the signs of mental activity in a modern brain scan using positron emission tomography. How the signs embedded in the representations can be read is the subject of the next section. For the moment I want to look at the more obvious question of the means of representation within the more obvious area of medical illustration.

We should, before embarking on our quest, remind ourselves that there is in fact nothing ‘obvious’ about medical illustration. Visual representation has only played a central, instructional role within the special tradition of Western medicine since the Renaissance. There were strong proscriptions against illustration in classical medicine, above all in the succession of Galen. The prime justification for the proscription, which remained a persistent undercurrent in later centuries, was that the real body itself was the true illustration. The body was the book that was to be read. Even Vesalius, who in 1543 effectively established illustration at the heart of anatomical learning, reminded his readers that pictures were not a substitute for the real thing. Once representations assume the magnificence and visual conviction of those in Vesalius’s *Fabrica*, they were readily taken as ‘showing it for real’. The

potency a picture tends to assume over the real thing and indeed over the descriptive text is linked not least to systems of memory. Thus the traditional ‘wound man’ of the late Middle Ages and Renaissance (v.1), adorned with an apparently incongruous array of weapons, plays a powerful mnemonic function in the fixing of the typology of wounds in the minds of the field surgeon and those concerned with field surgery. Schematic diagrams in a modern textbook, play similar roles with respect to the student’s learning process (I.12).

Within the special tradition of Renaissance and post-Renaissance Western medicine, representations that claim to be carrying precise and memorable information range from highly detailed ‘pictures’ of what can be seen to overtly diagrammatic illustrations of particular aspects of the seen forms. At their most elaborate, the veridical depictions aim to provide a surrogate for the experience of seeing what lay in front of the eyes of the draftsman. The great picture-books of anatomy (III.1–III.3, V.2–V.3 and V.6) from the time of Vesalius’s *Fabrica* to modern photographic atlases all share this aim in various ways, and in the eighteenth century the aspiration to present the unvarnished truth as visible in a single specimen – warts and all – became an absolute goal, especially in Britain. It was this ambition to create an image of compelling realism, almost hyper-realism, which fuelled the enthusiasm for the three-dimensional casts and elaborately coloured wax models, and which in turn became the speciality of a few highly-skilled practitioners from the seventeenth century onwards and later of specialist firms (I.5 and III.3). With the advent of photography in 1839, it seemed that a new tool to achieve unmediated realism was at hand, but its use in medicine proved highly problematic, for a number of reasons. Most particularly, a photograph of the inner parts of a body, especially before colour photography became a practical proposition, not only posed all the difficulties of looking into a real body but also suffered from an absence of clear spatial and coloristic differentiation. Furthermore, the reproduction of photographs on a mass scale only began to be practical in the 1870s with the invention of the collotype and related processes of printing. The area colonized most rapidly and successfully by photography was the illustration of some grosser abnormalities and pathologies, particularly those visible on the naked body.

Alongside the techniques, which claimed to show in a literal fashion what the eye sees, there were varieties of traditional diagrams that gave highly selective

or schematic renderings of forms, often driven by a clear sense of the functional implications of the drawn structures. Vesalius referred to some of his line diagrams, like one to show the criss-cross arrangement of muscle fibres, as both ‘rudimentary’ and ‘true’. In the modern era many of the techniques, which give schematically selective renderings of forms and functions, have been generated by instrumental systems of perception, in which invisible emissions, such as X-rays, are used in conjunction with a perceiving machine to give a picture of something that lies outside the normal range of vision. Recent methods of scanning, such as ultrasound, magnetic resonance imaging and positron emission tomography, are set up to provide highly filtered and processed images of what we wish to render visible – the unborn fetus or the centres of greatest activity in the brain. The highly selective rigging of these technological systems of artificial perception is not in principle different from the rigging of our own systems of perception and representation, though the human faculty of vision has a complexity and fluidity that gives it a broader potential than any instrumental system, which is basically designed to do one kind of thing.

Whether we are dealing with an artist making a detailed rendering, a photographer who judges lighting, exposures and printing, or a technician adjusting the emission and parameters of the receiver in an ultrasound scan, complex series of choices are made, which involve what we may call artistry, in the sense of using skill to give a selective, effective and even appealing depiction. In the case of a traditional medical artist, using normal drawing media, the artistry is obvious. Artistry may be welcome or unwelcome to the anatomist or doctor who is in charge of the project. For Vesalius and his successors in the seventeenth and eighteenth centuries, such as Bidloo (V.6), the stylishness of their illustrators’ products was an integral part of the enterprise, both to show the beauty of nature’s supreme machine and to produce books that were themselves prestigious products. Increasingly, as the teaching of medicine became more institutionalized, so there was a demand for a manner of illustration that breathed an air of sober truth, without visual flourishes and without overt signs of the artist’s transformative eye and hand. The first edition of Gray’s *Anatomy* in 1858 is a monument to the ambition to operate with what I have called the ‘non-style’ – one drained of any apparently subjective appeal – but which is, of course, a style in its own right, expressive of what Gray and his contemporaries believed was the

true nature of medical instruction. A precursor of the sober non-style is the one and only plate in William Harvey's seminal work of 1628 (I.6, 1671 ed.). Yet during the nineteenth century, the great atlases did not fade away, and the large-scale lithographic plates by Bourguery and Jacob in France (III.2) and Quain in Britain (VIII.5) still traded on overtly stylish visual appeal. Not surprisingly, in assembling their 'cabinets', the artists have for the most part been drawn to visual material that exudes an air of style.

Each of the processes involved in making and viewing is purposeful and partial, according to overt and covert intentions and proclivities. This is not to say, however, that results are arbitrary and contain nothing more than subjective views of multiple realities. Within the kind of shared context of communication that prevails in, say, the nineteenth-century teaching of anatomy, knowledge of a repeatedly verifiable and efficacious kind was being transmitted. It was an incomplete and selective knowledge, but it could justly claim to be knowledge.

SEEING THE SIGNS

If looking and representing are necessarily highly partial, the partiality is heavily directed by interests concerned with the body's meaning – the whole range of significances and associations that centre on the body. The significances and associations are often of a highly emotive or symbolic kind, relating to such issues as health and illness, beauty and deformity, sanity and madness, and the seats of reason, emotion, sexuality and the soul. In astrological figures, for example, the symbolic connotations are overt, but even in the modern era many artists and scientists have been drawn irresistibly to the key organs of the brain and the heart, the traditional centres of the intellect and emotions and indeed of life itself. A brain scan, revealing the localized charges of energy in response to a particular stimulus and a heart transplant operation still carry *frissons* of interest beyond, say, an X-ray of the large intestine. There are many taboos, attractions, repulsions and sexual connotations involved with the viewing of bodies, real or represented, and even the most ostensibly unemotive rendering cannot hope to control the associations brought to the image by the spectator.

No field is richer in metaphor than the body. I am less concerned here with the use of metaphors drawn *from* the body – such as ‘the heart of the matter’ – but more with those *for* the body. In the Renaissance the metaphors were predominantly cosmological and architectural. The body was a ‘miniature world’, a microcosm, embodying all the essential aspects of universal design, a metaphor which was even transmitted into a Chinese birth manual (V.9). The body was a temple or a house (I.10), the functioning elements of which must be maintained in equilibrium. God was the supreme *artifex* of the temples of the body and the cosmos. Disclosing the miracle of microcosmic design was undertaken in a theatre, a suitable arena for the most dramatic performance of all. During the seventeenth century, mechanical analogies became more prominent; by the nineteenth century surgeons were seen as undertaking the necessary training to transform themselves into engineers of the body. The new technologies of the twentieth century have produced their own metaphors and analogies, not least that of the brain as the greatest computer of all. In one sense or another all the artists are involved with the body as a field for metaphorical readings, whether by direct representation or by allusion to things and places associated with the bodily functions of health and illness.

The whole concept of health is and has always been deeply concerned with visible signs. The gross overall concept of health is intimately linked to how someone ‘looks’, in the sense of ‘you look well today’. Each age develops its own image of the ideal and thus healthy body – or perhaps of various ideals, depending on context and spectator (IV.1–IV.3). *Not for nothing* was a magazine that provided a vehicle for photographs of delectable nudes pored over by schoolboys in the 1950s and before called *Health and Efficiency*. There has been a perpetual strain between the visual rhetoric of the body beautiful perpetrated by makers of images and the reality of what most of us have been given. In the anatomy books, the male bodies which always provided the main focus for demonstration, characteristically assumed heroic Apollonian or Herculean airs. The first book in Italy to carry the new style of illustration, Berengario da Carpi’s *Commentaria* of 1521, showed nude male figures in heroic Roman poses or implicit dramas, including a crucified figure of the type still used in the eighteenth century (V.7). Anatomies of women were largely reserved to showing how they differ from men, with displays of reproductive organs set in bodies that not infrequently make overt reference to the most admired prototype of the beloved body, that of Venus herself (V.11).

The diagnosis of illness – of what renders the body ugly and diseased – has, of course, always been linked with ‘seeing the signs’, but in a very different way from modern diagnostic observation. In the long period of medicine from classical antiquity to the eighteenth century which was dominated by the theory of the four humours, complexions and temperaments – the sanguine, choleric, phlegmatic and melancholy – the physician’s observations were primarily directed to the detection of gross imbalances, using such signs as the colour and smell of urine, but not to the systematic observation and recording of the detailed symptoms and physical changes that reveal to modern medicine what part of the machine is breaking down and why. Temperamental peculiarities could be read from facial signs according to the ancient science of physiognomy, later to be amplified by phrenological analyses of the cranium (IV.4–IV.9). In early medicine, smell, touch, sound and even taste played large roles in diagnosis of temperamental imbalances. It is this earlier concept of diagnosis that largely explains why systematic and detailed visual representations of pathology arrived so late on the scene, once the techniques for depiction had long since been available. Only with the concepts of disease and pathology developed by physicians like Edward Jenner did small visual discriminations of physical signs assume a crucial role in the education of the practitioner.

Illustrations of pathology, sometimes involving the visual recording of extremes of deformity and abnormality, became increasingly prominent during the nineteenth century, with photography assuming a major role. Alongside the obvious clinical role of such pictures, there has been a strange and persistent current of voyeurism, with spectacular photographs of gross abnormalities attracting a fascinated if repelled audience outside the strictly medical arena. Such a fascination is nothing new. The grotesque carvings of the Gothic cathedrals, the monstrous forms of Bosch and Breughel, the bizarre heads drawn in such numbers by Leonardo, and the sometimes hideous drolleries of Dutch seventeenth-century genre paintings and prints all testify to widespread fascination with what may be termed ‘pathological ugliness’. Related to this fascination is the way that books of anatomical dissections, especially the great picture books, were aimed at markets that extended beyond professional medics. Indeed, some of the very expensive eighteenth-century atlases, like Hunter’s *Gravid Uterus* in 1774 were sold by subscription to the great and the good. That the inner landscapes of the body and

distortions from the perceived norm should be ‘exhibitable’ in a context like the present one clearly testifies to a fundamental and enduring trait in how we handle and mediate a complex range of deep feelings about the body, including, not least, a sense of fear.

SPACES AND THINGS

Medical interventions have tended over the years not just to take place anywhere and under any circumstances. The designation of special spaces for the doctor’s activities has served both functional and symbolic purposes. There have been obvious reasons for bringing together sick people in specially dedicated buildings. Treatment is more efficiently rendered if the patients are in close proximity and readily available to the physician or surgeon. There have also been good reasons for removing the sick from their normal habitations and from the general community. Isolating the sick and the insane, and rapid disposal of the dead, were established practices long before modern notions of disease and contagion were developed. Dedicated spaces may range from the custom-built hospital or madhouse to the ‘sick-room’ in the patient’s own house, generally a bedroom that is temporarily equipped with herbs, potions, pills, basins, medical paraphernalia and talismanic objects. The symbolic role of the spaces is no less integral to their function. The visual rhetoric of the places of healing is integral to establishing the relationship between treater and treated. Since the Middle Ages, the specialized hospital – typically with neat beds in neat rows with neat sheets and neatly minimal arrays of furniture – and the doctor’s consulting room as a privileged territory, have come to acquire particular kinds of ‘look’ that write indelible messages in the minds of the patients. We all know the clinical look of a modern hospital. Indeed ‘clinical’ has become an adjective for a practical kind of visual style; one that is stripped to essentials, undecorated, austere even, breathing an air of cleanliness and efficiency, with no dark corners for germs or the wandering mind. The style has a functional rationale. Even the light surfaces have a role, since they show up contaminating grime. But the style has gone beyond function and has become a metaphorical system of communication in which many of the institutional stratifications and subjugations of modern medicine are embodied.

Pictorial representations of such spaces have been increasingly common from the seventeenth century onwards. The madhouses of the eighteenth century were recorded in their full architectural glories, since the spaces for treatment, scrutiny and supervision were seen as essential levers on the architecture of the human mind. Illustrations of tidy wards with caring, clean-robed nurses, attentive doctors, compliantly cheerful patients, healing equipment, and the inevitable flowers and grapes, have become stock images – part of the propaganda surrounding the experience of hospitalization, which is designed to allay fears and instil confidence. The reality of the patient's perceptions may be very different. Featureless corridors, the visual sterility of wards, the brisk professional courtesies of doctors on their rounds, the imposed routines of meals and bedpans, can all too easily jar with the ragged perceptions of those who are seriously ill. Such jarring seems to be of concern to a small minority of medical professionals and a few architects of hospital buildings, but it is the artist, the insider-outsider, who can bring the sharpest visual perspectives on the loss of those human values that enter through the eye.

No less integral to the visual rhetoric of medicine is the presence and design of the paraphernalia of treatment. Some of the earliest medical illustrations in the Middle Ages involved arrays of equipment, knives, hooks, saws and various alarming devices for insertion into the orifices of the body. In the sixteenth century some books of surgery illustrated elaborate mechanical devices, much in the style that was already common in books of engineering marvels. The representations served an obviously descriptive function, but they also came to act as certifiers of a certain kind of activity and competence on the behalf of surgeons (II.6). The apparent lack of discomfort that characterizes many of those shown as the beneficiaries of the machinery also serves a reassuring function. Books of anatomy, inspired not least by Vesalius's *Fabrica*, often contain prominent illustrations of tools, dissecting boards, pins and clamps as a way of declaring to the viewer that what is seen in the illustrations is literally the result of first-hand experience. In the era of high-tech medicine, in which the patient is encouraged to feel better in direct ratio to the expense of the equipment used, illustrations of the latest devices are important parts of the visual marketing of medical services, especially now in the context of the false market being established within the British National Health Service no less than in a financially rapacious world of American

medicine. For these purposes the equipment has to breathe the visual air of high tech, whether of a white box with dials or the more visceral structures of devices that display their working parts.

No less significant in the treatment of routine illnesses is the kind of paraphernalia that is provided for the patient in a domestic setting. I suppose the common thermometer is the most familiar and widely used of the home devices. The traditional mercury thermometer, emerging from its velvet-lined metal sheath, shining and clinically scaled, carries associations for generations of sufferers from high temperatures. Now the computerized, instant thermometer is taking over, speaking the visual language of electronic technology. One of the most important but neglected aspects of such medical design has involved the containers for medicaments. The orientalizing *albarello* (the handleless, decorated ceramic jar of the Renaissance and later centuries) and the great vessels of the apothecary's shop represent species of specialized design that speak their own languages. The labelled bottles, ointment jars, pill-boxes and squeeze tubes of more modern medicine have all acquired their own distinct and evolving looks over the years (VI.1–VI.4). Even a tube of toothpaste, invariably white, with secondary adornments of bright primary colours (especially blues) and typically incisive type-faces, is a piece of visual rhetoric. The visually distinct types of medical container are linked to function, not least that of declaring that they contain medicine that might be dangerous if misused, but the function and the style are inseparable if we wish to understand why a container looks as it does.

Such objects are often stored together in particular ways. Few modern homes in westernized societies do not have a medical cabinet in which medicines, bandages, thermometers and related items are collected together (VI.5). Indeed the cabinet has been a constant feature of medicine since the sixteenth century. The earliest cabinets, the kinds of *Wunderkammer* or 'cabinet of curiosities', assembled by physicians contained a wider range of strange and magical objects of artificial and natural origins than we would expect in a modern medicine cabinet, but the principle is not so very different. The early cabinets of 'collectables' provided reassuring displays of knowledge and evidence of the owner's command over items that might be efficacious in a variety of often incomprehensible ways. When an apothecary hung a stuffed alligator from the ceiling of his shop, he was setting his practice in a nexus of secret knowledge of the exotic mysteries of how

nature really worked in all its manifest variety and how it could be brought to bear on the human constitution (II.2). It is ironic that the functioning objects collected in cabinets themselves become collectable in a different way as they assume functional obsolescence, entering collections, such as that of Henry Wellcome's, as eloquent visual reminders of other medical cultures. The visual paraphernalia of past ages speaks volumes. We are less good at noticing the significance of the signs of our own age.

HEROES AND VICTIMS (AND HEROINES?)

Underpinning all the elaborate apparatus of pedagogic representations, systems of signification, operational spaces and eloquent paraphernalia lies the human presence. In the final analysis, medicine is exercised by people on people. The relative status of those performing the actions and those being acted on is articulated in different ways in different societies, and the internal status of both categories are subject to important and changing differentiations.

The most obvious depiction of the humans at the centre of the endeavour is through portraiture. Being deemed a subject worthy of a portrait or being able to afford one (at least before the era of mass photography) was itself a significant measure of status. For a physician, or even more notably for a hands-on surgeon, to acquire the status of a 'gentleman' was an important sign, both for the recognition of the individual and for the profession as a whole. The point of the great majority of medical portraits before the nineteenth century was to display, overtly or implicitly, the elevated status of the sitter rather than to display him in the baser business of practical procedures. Thus Bidloo, in his great book of dissections, is displayed by Gérard de Lairesse, the 'Dutch Poussin', as a gentleman and scholar, elegantly dressed and addressing us through Latin humanist inscriptions. At most, a few attributes – a scalpel, an anatomical model or suitably titled books – might be included in a conventional portrait to allude to the sitter's profession. The relatively scarce 'action portraits' commissioned by or for medical men before the nineteenth century were occasioned by special motives, like Vesalius's wish to show himself in the title-page of the *Fabrica* reading the physical book of an actual body on his own account or in Nicolaas Tulp's desire to show himself

demonstrating the wonders of the bodily machine in the elaborate allegory of human knowledge painted by Rembrandt. The increasing likelihood of a doctor being shown 'on the job' in the nineteenth and twentieth centuries, most commonly in the kind of contrivedly informal photographs with which we are familiar in a variety of publications, is linked to a complex series of changed perceptions about medicine and the system of values into which it has become locked in our scientific and technological society. A particularly nice fusion of new imagery and an old medium is the image of Sir Alexander Fleming, saint of the discovery of penicillin, in a stained glass window in St James's Church in Paddington, near St Mary's Hospital. The laboratory, like the operating theatre, has become an admired site for the exercise of minds and hands, and is therefore a fit subject for representation in the most prestigious contexts.

The genres of medical portraiture have been overwhelmingly male in character, until the rise of the professional nurse under the inspiration of Florence Nightingale. The great majority of medical portraits of women, either individually or more typically in the act of caring, still occur in the field of nursing – mirroring the professional differentiations that have far from dissolved with the advent of feminism.

When medicine was earlier shown in action in the seventeenth and eighteenth centuries it was predominately in the fields of genre painting and social satires (II.1–II.3 and II.5). Many of the representations concerned vernacular, popular, even vulgar medicine – the practice of itinerant dentists, barber-surgeons, quack sellers of incredible potions and such-like. A genre of medical imagery developed, most especially in English satirical art in the eighteenth century, in which a medical narrative was used to allude to some other topic, such as the state of the nation or the foibles of the monarchy. Doctors, official professionals no less than the quacks, became prominent butts of visual satire – not altogether unwillingly in some instances, since there is evidence of practitioners seeking to gain notice through the commissioning of satirical images of themselves. Looking at the range of narratives we need to be continually alert to the dangers of too literal reading of the images as if they are documentaries. All the representations exist within defined fields of types of image, each of which has its own rules, compositional types, inclusions and exclusions. Each image was designed selectively to make a point, not necessarily in all cases about medicine itself. The inclusion of

symbolic references, such as a skull on the ground (II.3), should alert us to the way that images are artificially constructed within a context of shared expectations about how meaning is conveyed.

Genre paintings and prints are perhaps most revealing of how the victims of the medical professions saw the business of medicine. The majority of the makers of the narratives possessed limited medical knowledge and few of the images were made under the supervision of doctors. The narratives are thus valuable witnesses for the social history of medicine, most particularly with respect to the perceptions of the recipients of treatment, either on an individual or a more collective basis. When the artists are portraying their own direct experiences, either through the depiction of things they have witnessed in hospitals and other medical establishments or by the most direct act of all – self-portraiture while ill or under treatment – the potential for the most direct and compelling communication of the mental states induced by medicine is vividly apparent. Chronologically such medical self-images range from Dürer in the Renaissance – pointing, in a nude drawing of himself, to the spot that hurt – to Munch’s moving painting of himself standing forlornly beside a bed and clock shortly before his death and Bellany’s series of depictions of himself after his liver transplant (II.7–II.8). Some of the images may not be comfortable for the medical professions, but the perceptions they embody are overlooked at the peril of ignoring the personal dimension of healing in favour of the technological.

THE ELOQUENCE OF THE VISUAL

The great territory of medical art, of which only a fraction is explored here, is densely signposted, but the directions on the signs can only be adequately interpreted if we learn to decipher each kind of image in terms of what kind of signpost it is – who made it and for what purpose – and whether we can now tell if it is still pointing in the right direction. Messages in visual images are never rigidly stabilized, even within quite technical fields of illustration. The present endeavour, bringing together the live business of the making of images with the apparently inert detritus of the past, is designed to remind us of the potential eloquence of the visual within medicine. It was this potential that was recognized by

Sir Henry Wellcome, who saw his collections as providing evidence of a relatively obvious kind in the illustration of medical practices in past and foreign cultures. We now appreciate that the ‘evidence’ in medical images needs to be teased out with the greatest discretion. It is intended that the images gathered together will indicate how the visual legacy of medicine comes to life under the individual gaze of each spectator – whether an artist, historian or interested visitor – and how the artist continues to provide a uniquely valuable testimony to the kind of human values without which medicine loses its heart.

MARTIN KEMP

Materia medica

THE EXHIBITION

INTRODUCTION

This exhibition is based on invitations extended to eight artists for each to present a mixed ‘cabinet’ of their own work and historical material from the Wellcome Collections. The artists, chosen for the evident medical relevance of their own work, were provided with access to the Wellcome History of Medicine collections at both the Institute Library and the Science Museum.

The exhibition also draws inspiration from the extraordinary cabinets of art, curiosities and wonders assembled in sixteenth- and seventeenth-century Europe. These new ‘cabinets’ displayed here share with their predecessors a strong sense of visual variety and surprise, qualities which were largely expelled from museums when they were disciplined and modernized in the eighteenth and nineteenth centuries.

The selection of these new ‘cabinets’, and that of the exhibits within them, provides abundant evidence for the rich interaction between medicine and art. Drawing on the profound depth of this relationship’s past, the exhibition reflects the health and vigour of its present and points to an energetic future.

INTRODUCTORY WORKS

The artworks in this introductory section are by the artists who have each selected a mixed 'cabinet' of historical and modern works that comprises the rest of the exhibition. Their wide-ranging choice of media, approaches and subjects indicates the extent of the terrain covered by the intersection of medicine, art and history on which the show is built.

- 1 Illustrations of reconstructive surgery for facial palsy and its underlying anatomy.
Computer generated images by Jane Fallows. 1994
- 2 'Self portrait'.
Watercolour on paper by John Bellany. 1988
- 3 'King of Hearts'.
Oil painting on board by Michael Esson. 1995
- 4 Untitled.
Photographic installation – film on glass by Shelley Wilson. 1995
- 5 'Mary Approaching'.
Pen and ink wash by Deanna Petherbridge. 1989
- 6 'Adam's potions'.
Etching by Mariko Jesse. 1995

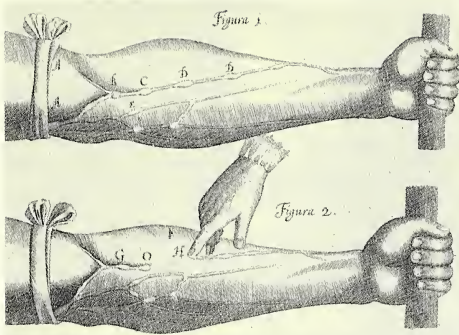
JANE FALLOWS

Jane Fallows initially worked in the areas of microbiology and renal medicine. It was while working as a Research Assistant at Hammersmith Hospital that she started preparing artwork for various members of the department. In 1980 she became a medical illustrator at the Royal Postgraduate Medical School, where in 1985 she began to experiment with producing illustrations on computers. Since the mid-1980s she has lectured on medical illustration and has set up a home-based freelance medical illustration practice. Her work is now primarily book illustrations, slides for teaching and poster presentations.

Medical illustration combines medical science, which is based on objective factual investigation, with the visual expression of art, which relies on an individual's perspective. Bridging the traditional divide between art and science, the creative techniques of the latter are used to express visually the complex concepts of the former, and in so doing can clarify and improve the understanding of text.

The past decade has been one of substantial change for medical illustration. The increased availability of computers for drawing, digital imaging and 3-D modelling has added significantly to the illustrator's palette. These developments have essentially changed the illustrator's role from that of a specialized artist to a communications expert, involving illustration, graphic design, multimedia presentation and even computer science. Some fear that these developments threaten the very livelihood of the medical illustrator, while others think that computers will be incorporated into their work in much the same way that photography was in the last century, providing yet another powerful tool to employ alongside more traditional skills.

In 1986, Jane Fallows made a commitment to using computers as a major drawing tool in her work as a medical illustrator, and despite the problems that did and still do occur with the technology, she remains excited by and committed to working with them. The majority of her commissioned work now involves preparing computer-generated graphics/artwork for book illustration and artwork on disk for slides.

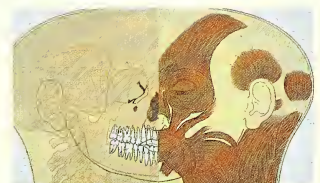
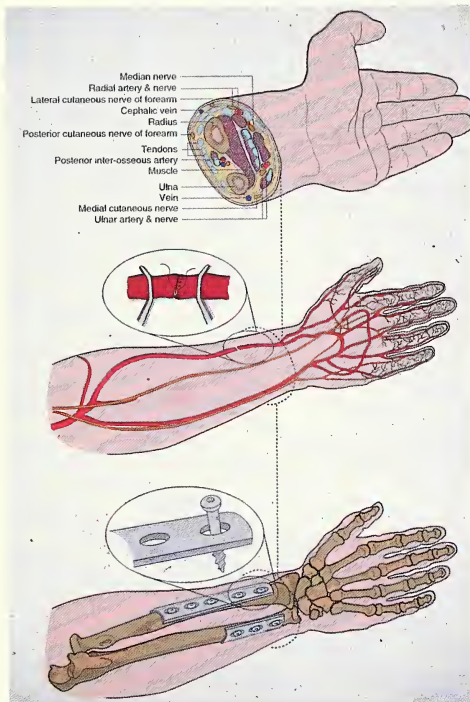


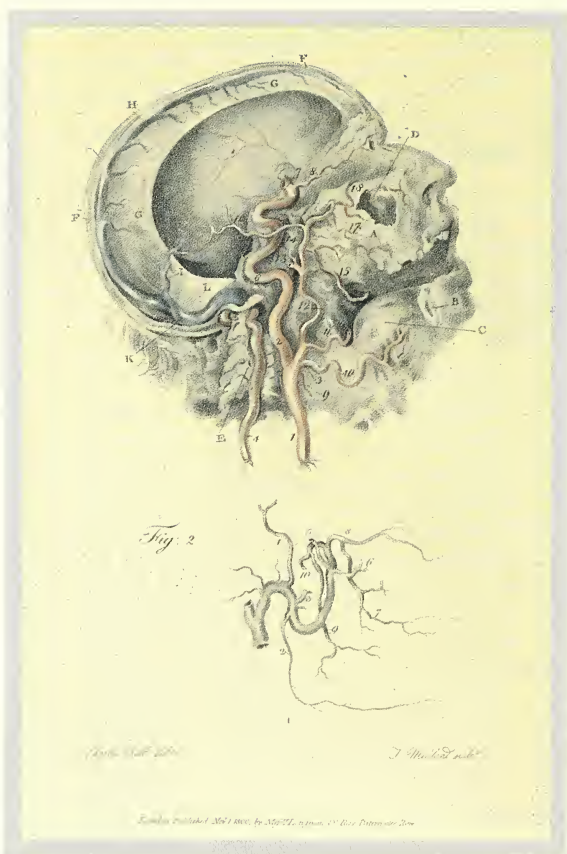
Left: William Harvey, *Exercitationes anatomicae...* (exhibit I.6)

Below left: Illustration of operation on severed hand by Jane Fallows. (exhibit I.7)

Below right: Tobias Cohn, *Ma'aseh Tobiyah...* (exhibit I.10)

Bottom: Illustration of reconstructive surgery by Jane Fallows. (introductory work I)





Top: Engravings... of the anatomy of the human body. (exhibit II.4)

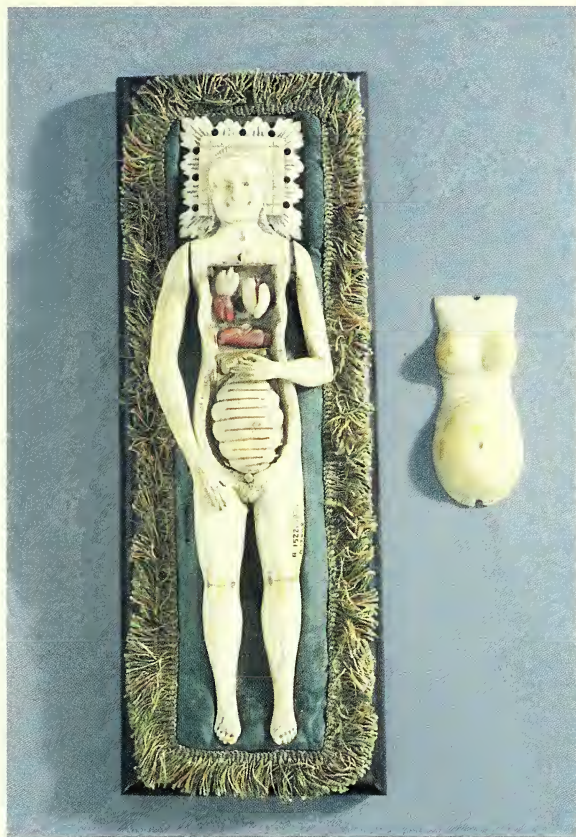
Left: A rural surgeon at work by Adolphe Potemont. (exhibit II.2)



Top: 'Self portrait' by John Bellany.
(introductory work 2) **Left:** 'Self portrait:
diptych' by John Bellany. (exhibit II.7)



Above: 'King of Hearts' by
Michael Esson. (introductory work 3)



Above: Ivory anatomical model of pregnant female. (exhibit III.4)

Right: Wax anatomical model of the head and neck by Joseph Towne. (exhibit III.3)





Right: Ivory phrenological heads.
(exhibit IV.4)

Below: Body-type 2: State I by
Shelley Wilson. (exhibit IV.2)

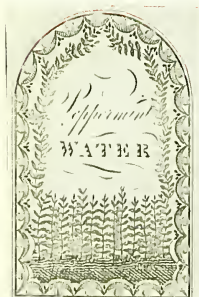




Left: Gautier D'Agoty, *Anatomie des parties de la génération...*
(exhibit V.2)

Below: 'Mary Approaching' by
Deanna Petherbridge.
(introductory work 5)





Above: Perfume case in book form.
(exhibit VI.1)

Left and below: Selection of trade
cards and perfume labels.
(exhibit VI.6)



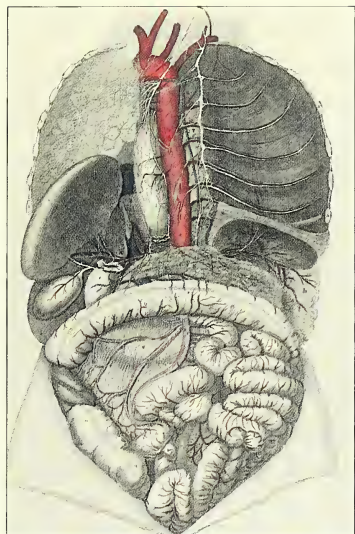


Above and below: Selection of
Mariko Jesse's made-up bottles.
(exhibit VI.3)





Above: Thomas Q Napper and
Nick Eagleton: 'The perfect
invention'. (section VII)



Top: John Lizars, *A system of anatomical plates of the human body*. (exhibit VIII.6)

Above: Detail of 'Dark side of the earth' by Amanda Metcalf. (exhibit VIII.4)

Focused in part on the illustrative treatment of the heart and circulation systems, the works displayed in Fallows' 'cabinet' reflect the changes brought to the world of medical illustration by the use of computers. At the same time, the range of historical material and its juxtaposition with modern pieces pays tribute to the power and beauty of works produced by earlier generations of medical artists. Taken as a whole, these exhibits make it clear that recent technological innovations need not be set in opposition to traditional practices, with different subjects and requirements revealing advantages and disadvantages in both modern and traditional methods.

I.1 Two hearts.

Photographic prints of traditional airbrush by Siri Mills. 1990

These images reveal a highly individual approach to the challenge of illustrating (i) the heart as a machine and (ii) angina, often described as a 'fist-in-the-chest'.

Loaned by the artist

I.2 Teaching poster.

Computer generated chart by Doig Simmonds. 1994

The illustrative techniques used here are specifically designed to enable general practitioners to explain to patients, particularly women, what happens if the body loses calcium.

Loaned by the artist

I.3 Frank Nicholls, *De anima medica praelectio ex Lumleii et Caldwaldi instituto*,... (London, 1750)

This depiction of two hearts, which includes such props as the pedestals on which they are displayed and a measured grid that runs around the border of the image, clearly shows how medical illustrations were used to do much more than just 'illustrate' an anatomical point.

EPB 38656/C

I.4 Anatomical illustration including depiction of heart.

Japanese manuscript on acupuncture. c. 1600

The transference of medical knowledge from one culture to another, or alternatively their parallel evolution, has sometimes meant that images that superficially look rather different can end up presenting the same medical information.

Japanese Collections

I.5 Two wax models of human hearts – one whole, one half. British, c. 1940

In depicting the medical body, illustrators have not just been confined to two dimensions – on pages or screens – but have also used models made out of a variety of materials. Until recently at least, actual bottled specimens have also been a common part of medical education. These two models were owned by the eminent cardiologist Thomas Lewis.

Loaned by the Science Museum

I.6 William Harvey, *Exercitationes anatomicae, de motu cordis et sanguinis circulo atione* (Rotterdam, 1671)

This pioneering text in the history of modern cardiology, first published in 1628, includes only one illustration. The diagram with four arms shows how to conduct an experiment that reveals the action of valves in the veins.

EPB 27821/A/3

I.7 Illustration of operation on severed hand.

Computer generated image by Jane Fallows. 1993

The illustration depicts an operation described by the surgeon responsible for replacing the severed hand of a policeman. It had been chopped off with a samurai sword while he was attending to a 'routine' domestic disturbance.

Loaned by the artist

- I.8 Giovanni Maria Lancisi, *De motu cordis et aneurysmatibus*. (Rome, 1728)
This illustration with its high quality of draughtsmanship indicates a careful attention to pictorial detail and contrasts markedly with the much more diagrammatic computer generated images shown beside it.

EPB 32110/D

- I.9 Sequence of illustrations showing changes in patterns of circulation in babies during their first few days.

Computer generated illustrations by Jane Fallows. 1995

These images were produced with medical students very specifically in mind. Sometimes a more complex and aesthetically striking image may not be as easy to comprehend as a diagrammatically simple one.

Loaned by the artist

- I.10 Tobias Cohn, *Ma'aseh Tobiyah...* (Venice, [1708])

Cohn (1652 –1729) was a Polish physician. This illustration appears in his encyclopaedic work in Hebrew, which covers astronomy, theology, hygiene and botany as well as medicine. It compares the parallel systems of a house and a human body, likening parts of one with organs of the other. The heart and circulation is paired up with a lantern or window.

EPB 18258/B

- I.11 Cartoon image depicting breast cancer.

Pen, ink and airbrush image by Dr Rachel Armstrong. 1990

Though employed in a very different way, Armstrong's work is similar to Cohn's shown alongside, in that both use analogies to try to convey how the body functions or, in Armstrong's piece, malfunctions.

Loaned by the artist

I.12 Illustrations for anatomy book.

Computer generated images by Jane Fallows for Blackwell Scientific Publications. 1994

This book was produced as an instant reference work for undergraduate medical students, prospective surgeons, clinicians and paramedical groups. The illustrative style has been deliberately chosen for this level of user.

Loaned by the artist

I.13 Section through head showing vessels employed in sense of smell.

Computer generated image by Jane Fallows. 1995

This illustration is an example of one that has been produced for CD-ROM, indicating the range of media through which images can be absorbed as well as produced.

Loaned by the artist

I.14 Computer terminal featuring elements of an interactive skeleton produced by Primal Pictures.

Not just used to create illustrative material, information technology is also playing an increasingly important role in conveying information and images.

JOHN BELLANY

John Bellany was born into a fishing family in Port Seton in Scotland, and much of his art draws on a deep sense of community roots and an energetic national pride. Right from his childhood when he started drawing the boats that his father sailed, made and modelled, he entertained thoughts of being an artist. From 1960 he attended Edinburgh Art College, and, hungry for more knowledge, continued his studies at the Royal College of Art in London, from which he graduated in 1968.

Throughout the 1970s he lived in London, teaching, exhibiting and painting prolifically. Sometimes he sold pieces of work, but Bellany resisted the idea of painting for a living, preferring instead to view it as a quest for knowledge and truth. The 1980s saw him exhibiting in major shows in Australia, America and Europe, and nearer home throughout Britain. The rise in his fortunes during this period was also marked by high-profile commissions and prizes.

At the same time, a mixture of emotional stresses and heavy drinking habits led to considerable unhappiness in his private life. Physical difficulties in sleeping and eating culminated in extremely severe health problems. His liver was collapsing and at times seemed to be taking the rest of his body and mind with it. Initially treated in St Thomas' Hospital, his deteriorating condition made a liver transplant the best medical option. After exhaustive tests, it was finally carried out in the spring of 1988 in Addenbrooke's Hospital.

In every conceivable sense, the successful operation gave Bellany a new lease of life. Almost as soon as he regained consciousness, he started drawing again; his art both helping him deal with the pain of recovery and providing an essential tool in the task of reconstructing his life.

This extraordinary encounter with modern medicine both simply allowed Bellany to continue practising his art and strongly influenced his approach to it. This can be seen in his selection of material shown here: Bellany's own works, with their autobiographically medical themes, and the historical exhibits chosen

with his combined perspective as artist and patient. The relation of the two highlights a tension between the profound self-knowledge embodied by his own works and the veil of magic and mystery retained by the historical exhibits.

II.1 Scene representing pharmacy and surgery. Engraving, 1646

One notable feature of the surgical operation in this scene is that it is not being conducted in a space specially set aside for the purpose. Pharmacy is represented by a patient taking a medicine. The engraving was published as a plate to G Fabricius Hildanus, *Opera quae extant omnia*. (Frankfurt, 1646).

Iconographic Collections – catalogue no. 22364

II.2 A rural surgeon treating an elderly man's foot.

Etching by Adolphe Théodore Jules Martial Potemont after David Teniers, the younger (1610–1690). Mid-nineteenth century.

The operation depicted is taking place in the workroom of a surgeon-apothecary. An assistant can be seen making a preparation with a pestle and mortar. Some of the same materials, particularly the fish suspended from the ceiling, were also commonly kept in contemporary cabinets of curiosity. The engraving is also notable for its display of hats.

Iconographic Collections – catalogue no. 22596

II.3 An audience watching a surgeon operate on a patient's foot.

Line engraving by Pieter Jansz Quast (Amsterdam, 1606–1647).

The image clearly captures the way in which surgical operations could almost become theatrical performances. The skull on the ground was commonly employed as an artistic motif to remind viewers of the ever-present threat of death, a particularly appropriate symbol in images dealing with the dangerous art of surgery.

Iconographic Collections – catalogue no. 22561

II.4 Charles Bell, *Engravings of the arteries, illustrating the second volume of the anatomy of the human body, by John Bell.* (London, 1801) Plate 4

The fine illustrations in this work, created by another notable Scotsman, reflect the combined skills of medical observation and draughtsmanship upon which a good deal of medical history has been built.

EPB 13066/C

II.5 Arzneibuch. Compendium of popular medicine and surgery, receipts, etc. German. [c. 1675] pp.83, 84

This profusely illustrated manuscript was compiled for a House of the Franciscan Order, probably in Austria or South Germany. The physicians and surgeons, and sometimes the patients, are shown in the habit of the order. The illustration on the left-hand page shows an ophthalmological operation in which the patient has been restrained by being tied to a chair. Some surgical instruments can be seen on the table behind. On the right-hand page are more detailed depictions of the patients injuries and some of the instruments.

WMS 990

II.6 De chirurgia efficaci sive majori tractatus. [Naples, 1738?]

Bound with other medical works, this surgical treatise is illustrated with 15 coloured pen-drawings of instruments. Though plain in style, the rendition of this simple subject matter nonetheless still conveys a strong sense of the pre-mechanical human touch.

WMS 4268

II.7 'Self-portrait: diptych'.

Etchings by John Bellany. 1988

These two images capture Bellany's mood and self-perception during his recovery from the liver transplant operation that was conducted at Addenbrooke's Hospital.

Loaned by the artist

II.8 Selection of leaves from note- and sketch-books. John Bellany. 1988

Bellany's liver transplant operation left him feeling as though the door on his life had been left slightly ajar. His task thereafter was to open it and peer out into his new world. Gradually, the concerns of his work turned from the internal focus reflected in these pages to subjects outside himself.

Loaned by the artist

MICHAEL ESSON

Now lecturing at the College of Fine Arts, University of New South Wales in Australia, Michael Esson was born in Aberdeen, Scotland, and studied at Gray's School of Art and Edinburgh College of Art. He has lived and worked in Australia since 1974, coming back to the Royal College of Art in London for further studies in 1977. His works shown here are all flat, but the clarity of their subjects' constituent elements echoes his earlier background as a sculptor.

For many years, Esson's work has focused on the human figure, specifically as it has been studied by anatomical inquiries and manipulated by surgical practice. Beneath the physical surface and physiological understanding portrayed, Esson's works also gesture toward deeper questions about self-perception and mortality.

Much of the inspiration for his work comes very directly from the history of medical images, particularly from the tradition of naturalistic illustrations to medical texts that initially emerged during the European Renaissance in the hands, for example, of Vesalius and Pietro da Cortona. Esson transforms this material into a body of work that has been rescued from the status of mere 'historical' interest, injecting it with a contemporary relevance.

III.1 Pietro Berettini, *Tabulae anatomicae*. (Rome, 1741) Tab XXI

EPB F109

III.2 Jean Baptist Marc Bourgery and Nicolas Henry Jacob, *Traité complet de l'anatomie de l'homme comprenant la médecine opératoire...* Tome 7, (Paris, 1839) plate 21: 'Cancer de la langue'

EPB F127

III.3 Wax anatomical model of the head and neck by Joseph Towne.
Made for the 1851 Exhibition

Loaned by the Gordon Museum, Guy's Medical School

III.4 Two ivory anatomical models of pregnant females with some removable organs. Europe, seventeenth or eighteenth century

Loaned by the Science Museum

III.5 'Situs inversus'.

Etching on paper by Michael Esson. 1994

Loaned by the artist

III.6 'Hunter's tooth'.

Etching on paper by Michael Esson. 1994

Loaned by the artist

III.7 'Towne head'.

Etching on paper by Michael Esson. 1994

Loaned by the artist

III.8 'Floral tongue'.

Etching on paper by Michael Esson. 1994

Loaned by the artist

IV

SHELLEY WILSON

Shelley Wilson originally worked in banking, as a commodity dealer. She quit her job in the City to have a family and initially took up art as a diversion from the demands of bringing up children. After completing a foundation course at Sir John Cass School of Art, she went to Camberwell College of Arts in 1989.

The course allowed her to experiment with various media. Further studies encouraged her to focus on sculpture and ceramics, while keeping up a life-long interest in photography. All three have been brought together in the method of working that she subsequently evolved, and that in the pieces shown here she has used to probe the human form.

In these works, Wilson began by taking photographs of a series of postures adopted by carefully chosen female models. At this stage she also took measurements of heights, dimensions of limbs, and other statistics. Two positions were then chosen and used as studies or sketches from which to make clay figures. Once these sculptures were finished but still soft, she manipulated them – rotating, scanning, and slicing them – again using a camera to capture these new surfaces. This last set of photographs were then mounted on a series of glass plates to form the final work. It is only at this stage that the works became 3-dimensional again – but this time constructed out of Wilson’s own intuitions. In this work, sculpture, along with two sets of photographic images, have all been employed as tools used in a process whose end-product is much harder to categorize.

All the models in these works are between 25 and 35. One model reflects Wilson’s sense of what our society has projected as a ‘perfect’ body-type, the others vary from this idea. Wilson mostly employed non-professionals in order to avoid contrived postures. She initially asked the models to position themselves, discussing with and involving them in finding how they were most natural, thereby encouraging them to reveal their emotions in their own body language.

Complementing Wilson’s own work on female body types, her selection of historical material displayed draws on the science of phrenology, a branch of

medical enquiry that sought to understand and categorize the shapes of people's heads by similarly focusing on an ideal and various imperfections deviating from it. Phrenology stemmed from Franz Josef Gall's theory that different parts of the brain related to different functions, and that their relative sizes were reflected in the shape of the skull. It became both a science and a parlour game that captivated Europe and America throughout the nineteenth and early-twentieth centuries, when assiduous efforts were put into measuring and analysing, in the minutest detail, every bump on every conceivable, though usually male, head.

Both Wilson's artworks and the accompanying phrenological exhibits reflect fundamental urges to categorize, order and prioritize. But they also indicate the complications, problems and contradictions inherent in any such project, reminding us that minds and bodies are not easily separated and that one person's perfection is another's deviation from it.

IV.1 Body-type 1: States I, II and III.

Photographic installations – film on glass by Shelley Wilson. 1995

In these works, the moods of the faces can seem almost at odds with those conveyed by the bodies. Confident expressions are undercut by outlines that almost seem to have negative definition. Occasionally the mere positioning of an arm or foot will suggest a particular emotion.

Loaned by the artist

IV.2 Body-type 2: State I.

Photographic installations – film on glass by Shelley Wilson. 1995

The idea of a 'perfect' body can have many meanings depending on the context. At a personal level most people carry around their own ideals. At a more general level, the consensus of opinion often settles on particular desirable traits; while fashions and image makers also project particular stereotypes. These often vary across time and between cultures.

Loaned by the artist

IV.3 Body-type 3: States I, II and III.

Photographic installations – film on glass by Shelley Wilson. 1995

The bodies in these works have adopted sturdy, strong and compact postures – poses that seem to generate a sense of confidence and a notion of ‘togetherness’.

Loaned by the artist

IV.4 Ivory phrenological heads. Europe, nineteenth century

Model heads were one of the products of phrenological study and teaching. They were used to illustrate the wide range of head shapes, which, it was believed, directly reflected personal and mental characteristics.

Loaned by the Science Museum

IV.5 Simple callipers, cephalometer, wooden and brass craniometer (instruments for taking head measurements). Europe, late-nineteenth century

Measurements of every conceivable dimension and protrusion provided the core data on which phrenology was based. The instruments used to gather this information ranged from simple rulers and callipers to far more complex machines.

Loaned by the Science Museum

IV.6 Phrenological studies from the *Journal des Artistes*.

Lithograph by C Picard after Thénot. 1844

Franz Josef Gall, the founder of phrenology, is depicted in one of these prints with two figures chosen to represent extremes of benevolence and destructiveness. As befits the father of the science, he is shown with a large cranium of the altruistic type. One of the heads on the other print shows the classic proportions of ‘the idiot’ – a form repeated in countless other phrenological illustrations.

Iconographic Collections – icv 9729 and 9730

IV.7 'Principal Cranial Measurements'.

Photographs mounted on board, used as plate 50 in Bernard Hollander, *Scientific Phrenology*. (London, 1902)

The selection of sixteen photographs shows Hollander (1864 – 1934), one of the leading champions of phrenology in early twentieth-century England, measuring his own skull. They indicate some of the key dimensions of the head that were thought to be so significant in determining mental capacities and characters.

Iconographic Collections – icv 9741

IV.8 Stackpool E O'Dell, *A Phrenological Chart of Character*. (London, 1923)

This chart summarizes the results of a phrenological consultation, which is then related to suitability of potential marriage partners. It was here bound with the British Phrenological Institution's brief guide to the concepts of phrenology. In the early twentieth century, the O'Dell family were leading lights in the British phrenological scene.

Modern Medicine Collection

IV.9 Title page of Joseph Morel de Rubempré, *Nouveau Lavater complet; ou réunion de tous les systèmes pour étudier et juger les dames*. (Paris, 1838)

Including works by leading phrenologists such as Franz Josef Gall and Johann Caspar Spurzheim, this work enabled readers to judge women by, as the subtitle described it, knowing their qualities, faults, characters, perceiving their thoughts, desires, inclinations, secrets, tastes, passions, fidelity, indiscretions, etc. etc.

EPB 37563/A

DEANNA PETHERBRIDGE

Deanna Petherbridge, Professor of Drawing at the Royal College of Art, is an artist whose practice is centred around pen and ink drawing. She is currently researching a book entitled *The Primacy of Drawing*.

“I have become very interested in anatomical imagery because of my researches into the history of drawing, and its centrality within the teaching of art.”

“Since the Renaissance, western artists have learned about the human figure through anatomical textbooks, as well as drawing from dissected cadavers; but the process has been only partly to do with accurate recording of the ‘natural’ body, as we might understand it today. Rather, the representations of bodies in anatomical books of different historical periods have arisen out of very complex cultural determinants – as much to do with the antique and the classical *episteme* as with empirical observation and the current state of medical knowledge.”

“Although it may seem very strange to twentieth-century eyes, the artists who created the images, and those supposedly learning to draw from them, have done so by employing the rationale of representing an anatomised female body in the pose and proportions of a *Venus pudica* (V.11); or by depicting a dismembered male body as a broken stone fragment like the Belvedere torso or a Roman bust (V.3); or, as recently as the eighteenth century, by relating a skinned body (*écorché*) to the suffering Christ on the cross (V.7); or by depicting the anatomy of the *Discus Thrower*. Moreover, the manner in which the macabre aspects of death – the skeletons and catafalques – have been woven into a richly metaphorical setting; or the shocking processes of flaying and mutilating cadavers have been ameliorated through ironic images – the *écorché* holding up its own skin; or the female corpse displaying the contents of her uterus (V.2); have all served to diffuse horror and relocate the unimaginable in the aesthetic. A Chinese manual on childbirth based on English line engravings of 1858 (V.9) illustrates how a system of omissions can be a strategy of aestheticisation. By stripping away all the

irrelevant anatomical information except the outline of the womb and the pelvis, the bud and coryledon imagery is paramount.”

“The depiction of the weaponry of anatomy – the clubs, arrows and spears attacking the body of the mysterious fifteenth-century *Wound Man* (V.1), and the scalpels probing neck and head wounds in an 1830s practical manual (V.4) – reminds us of the punitive aspect of anatomy. Until recent times, hanged transgressors furnished the cadavers of public anatomies, suffering the rewards of sin (V.5). In a seventeenth-century engraving after Gérard de Lairesse, however, the careful drawing of the pins staking out the tendons of a hand, as immaterial and fragile as a display butterfly, serve to distance the notion of attack by referencing the history and means of scientific mutilation.”

“I have been limited by the size of the display to a very small selection from the vast and wonderful visual reserves of the Wellcome Collections. Within my own drawing *Mary Approaching* (Introductory works 2) I have dealt with gender issues and the ownership of the body. Unlike Gautier d’Agoty’s pregnant woman who offers her stripped body as an image of titillating sexuality to the male gaze (V.2), Mary, holding what could be a dead baby or an aborted foetus, is approaching a group of laughing male doctors with trepidation. Their decisions over her person – the scientifically legitimated attack against the body – are the subject of the work.”

V.1 ‘Wound man’ from the Wellcome manuscript *Apocalypsis S Johannis cum glossis et vitas Johannis; ars moriendi...* (c.1420) fol. 34

WMS 49

V.2 Jacques-Fabien Gautier D’Agoty, *Anatomie des parties de la génération de l’homme et de la femme*. (Paris, 1773) planche VIII

EPB 24192/D

V.3 Muscles of the head and neck.

Colour mezzotint by Jacques-Fabien Gautier D'Agoty for his *Essai d'anatomie, en tableaux imprimés*, Paris, 1745–1746

Iconographic Collections – icv 8028

V.4 Blood vessels of the neck.

Coloured lithograph by A H Cane, printed by G E Madeley, for William Bloxam, *Cyclopaedia of practical surgery*. 1834–1836

Iconographic Collections – icv 8380

V.5 “The mirror of sinners, the sword of vengeance of sin”.

Oil on wood by a Spanish painter

Iconographic Collections – icv 17453

V.6 Muscles of the hand.

Engraving after Gérard de Lairese for Govaert Bidloo, *Anatomia humani corporis*. (Amsterdam, 1685) tab 67

Iconographic Collections – icv 7970

V.7 ‘Crucified’ *écorché*.

Stipple engraving in Jacques Gamelin, *Nouveau recueil d'osteologie et de myologie*. (Toulouse, 1779)

EPB F2270/ Iconographic Collections – icv 9072

V.8 Anatomical figure.

Watercolour in undated Persian manuscript: Mansur b. Muhammad b. Ahmad b. Yusuf Faqih Ilyas (died after 1422), *Tashri h-i-Mansuri*

Persian MS 613B

V.9 *Fu-ying hsin-shuo*.

‘Treatise on childbirth and post-natal care’, translated by Benjamin Hobson with engraved illustrations. Shanghai, 1858.

Chinese Collection 35 IA

V.10 Cased amputation set.

Made by Cargill. England, eighteenth century

Loaned by the Science Museum

V.11 Ivory anatomical figure in the form of a pregnant ‘Venus’, with hinged abdomen. Europe, eighteenth or nineteenth century

Loaned by the Science Museum

VI

MARIKO JESSE

Mariko Jesse was brought up in Hong Kong and moved to England when she was twelve. Art and literature have always been her main interests; she has been drawing for as long as she can remember. She experimented with various media while on a foundation course at Croydon College, and went on to a graphic design course at Central Saint Martins College of Art and Design in London, graduating in 1995. It was here that she first started using bottles in her work. Her third-year degree thesis focused on the history of the bottle and its use as a visual medium.

“The bottle is a vessel for my art. It displays and isolates a concept, at once presenting and containing an idea. I must capture a beautiful thing or a moment in some physical way for it to exist: I put it in a bottle. Even if it is just a ticket with a drawing from a ballet, the smell of a flower or the ashes of a fire. I must possess it to let my mind not have the burden of remembering it.”

“The bottle is a basis of an idea; things that come out of it can be bigger than the original container – a ship in a bottle for example, which seems much too big actually to be in there. Placing something in a bottle brings attention to it, isolating and exposing it. It presents a temptation. Who could resist a bottle labelled ‘don’t open’? People should wonder what is inside, and what it is for.”

“I want my bottles to seduce, to invite. Perhaps in striving to use scent in a piece of art I am trying to capture a memory that differs for all those who smell it. To capture a moment in full is something only scent can do.”

“In humans the effect of smell on the imagination and memory is especially strong. It seems to reach the subconscious, to stir unsought-for remembrances, half-forgotten moments of the past, and bring them back so vividly that the occasion might have been yesterday. Fragrances elude definition; and yet it is through our sense of smell more than any other that we perceive our unconscious impressions, many of them lasting a lifetime and often arousing profound emotions.”

“I am just as fascinated by the labels as the bottles themselves. The process of labelling is intriguing. Mallarmé said ‘to name an object is largely to destroy poetic enjoyment, which comes from gradual divination. The ideal is to suggest the object.’ I feel that to label a bottle gives it extra depth. A bottle is not complete without a filling, or a label – be it confusing or enlightening.”

“Patent medicines from the eighteenth and nineteenth centuries set a precedent for the practice of creating labels that were economical with the truth, suggesting imaginary illnesses and creating far-fetched cures. How much did the contents actually relate to the labels? My bottles and labels in this exhibition are all based on these ‘quack’ medicines. I have created my own illnesses and cures, working on the premise that you can now get anything you need in a bottle. (Or at least you soon will.) Even violin lessons.”

VI.1 Two perfume cases in book form.

Florence, Italy, seventeenth and eighteenth centuries

The case with the coloured engraving on the inside lid contains the original floral essences. The cover of the other is tooled leather.

Loaned by the Science Museum

VI.2 ‘Book of memories in scent’ and another book of scents.

Printed books and mixed media by Mariko Jesse. 1995

Unlike the Italian perfume cases shown alongside, Jesse’s scent cases are made from real books. Each of her bottles contains the smell of a season, a day, or just a single event like an evening at a restaurant. The idea was inspired by a Primo Levi short story in which a man has a room of bottles containing the essence of his whole life.

Loaned by the artist

- VI.3 (a) Selection of eighteenth- through twentieth-century pharmaceutical bottles.
(b) Mariko Jesse's own made-up bottles.

This selection of historical bottles represent a small number of the treasures to be found in the Wellcome glassware collection. Jesse's own bottles, in which she has created the labels, the stoppers, and sometimes the contents, reflect the art and skill that go into making everything that goes into, and indeed the whole idea of medicine bottles.

Loaned by the Science Museum, GlaxoWellcome Plc and the artist

- VI.4 Perfume bottle. 'Eau de roses triple supérieure' by Bertrand Frères. France, late nineteenth century

Perfume bottles and their labels have always been more ornate, and initially were custom made for those parts of society used to luxury and high fashion.

Loaned by the Science Museum

- VI.5 (a) Medicine Chest. Italy, late-nineteenth century.
(b) Pill boxes and bottles in boxes by Mariko Jesse.

Cardboard and mixed media. 1995

The multiple drawers and containers lend the chest a sense of delicacy and intimacy. One of Jesse's bottles is for thieves. It contains a smell for making people inconspicuous – an 'un'-smell that makes them unnoticeable. The other is for beggars, containing a smell that arouses sympathy. The use of smells to manipulate people's emotions is today commonly exploited in various commercial contexts.

Loaned by the Science Museum and the artist

VI.6 (a) Selection of trade cards and perfume labels.

Europe, seventeenth through nineteenth century.

(b) Made-up advertisements and labels.

Hand-painted print on paper by Mariko Jesse. 1995

The mixture of historical exhibits and Jesse's own works reflect both the high aesthetic content of this material and the extraordinary energy focused on these narrow commercial ends. Some of the densely packed nineteenth-century advertisements give the impression of including every conceivable gimmick and device to encourage a purchase.

EPB and loaned by the artist

VI.7 (a) Burroughs Wellcome & Co. Trade Marks book (1879 – 1893).

(b) Sketch- and note-books by Mariko Jesse. 1995

The trademark book was used by Philip M Justice at a time when the protection of trademarks was gaining an increasingly important place in commercial practice. Both it and Jesse's notebooks give a strong sense of how books can be used as places to store material to work on, updating and revising earlier ideas.

Loaned by GlaxoWellcome Plc and the artist

VII

THOMAS Q NAPPER AND NICK EAGLETON

The perfect invention

"The human brain is, without question, the most complex, widely investigated, and least well understood system known to mankind."

Gray's *Anatomy*

Thomas Q Napper completed his degree at Central Saint Martins College of Art and Design in June 1994. Since then, he has collaborated with Simone White on several scripts, "Dead London" having been short-listed by the BFI New Directors Scheme. He also directs music videos. Nick Eagleton developed a fascination for the strange world of museums while studying Fine Art at Bristol Polytechnic. For two years he worked at the Exploratory (science centre) in Bristol. He now works as a freelance designer and is doing a PhD at Central Saint Martins.

More of a parable than a documentary, their short film is essentially an investigation of an idea, set in the store rooms of the Science Museum's medical history collections. The extraordinary abundance, over-abundance, of historical relics kept there, and the atmosphere of the building itself, help to create the perfect location – a theatre, or stadium, of the mind cluttered with instruments, models and preparations from medical history – in which to pursue their cinematographic research.

Interest in how the mind works is as old as thought itself. Disciplined enquiries can be dated at least to ancient Greek science, with the ideas of Aristotle, Hippocrates and Galen having an enormous impact on centuries of subsequent investigation. The Renaissance brought with it new anatomical investigations, to which later centuries added experimental practices, some employing microscopes and the electrical stimulation of the nerves.

In the nineteenth century, the work of Franz Josef Gall and his followers turned the study of heads and minds into an entirely different discipline:

phrenology. Based on the theory that the head's shape somehow matched its carrier's character and mental capacities, the nineteenth century witnessed a frenzy of head-measuring. More than a hundred years and many scanning and imaging techniques removed from this craze, looking at the now unused tools it left behind, phrenological attempts to juxtapose millimetre-accurate maps of individual heads with the evident complexity of their owner's mind seems now nothing short of bizarre.

The central character in this film has an idea that he is having trouble expressing. The Wellcome collections – a veritable bell jar of medical science – provides him with an archive full of 'good ideas' in which to identify one that might match his own. The historical instruments allow him to probe and attempt to pin down this idea: what its shape, weight and velocity is, where it came from. Phrenologists, psychiatrists and brain-scanners are all employed to track down this elusive notion. Using these investigative tools from medical history, the film becomes a metaphor for attempts at understanding the mind from early history right up to our own time.

VIII

AMANDA METCALF

(Temporary annexe display in Library reading room)

Amanda Metcalf studied sculpture at the Bath Academy of Art and furthered her research under a French Government scholarship in Paris. She has lectured and taught sculpture and drawing at a variety of institutions, and has worked on numerous exhibitions of both her own work and that of other artists. Recently she has been involved in a number of art projects based in hospitals and health centres.

“In August 1991 I was unexpectedly taken ill, spending the following months in hospital and the next 18 months convalescing. From my first experience as a patient undergoing scanning and X-ray, I found myself visualizing the organs and workings of the body. These were to a large extent fantasy as, at this stage, I had little sound knowledge of human biology.”

“From this pre-operative period where my body went through a relative inquisition, my imagination worked overtime, but not altogether negatively. I remember very clearly, while experiencing a potentially stressful scan, visualizing vast drawings of the gastrointestinal tract – they were powerful, positive images, which I later realized were the beginning of my fascination with the workings of the human body. From the start my thoughts were of how to celebrate it, rather than to express any malfunction.”

“I became very excited by the richness of the body as a source for visual ideas, by its variety in terms of structure, form, colour and texture and by the parallels I could find with it and other natural forms, but most of all by its inherent sensitivity and fragility.”

“I subsequently discovered the visually rich historical material of the Wellcome Institute Library, which I could interweave with my own personal discoveries. The pieces that were based on this research related specifically to the frustration I had felt at not being able to see inside my own body (except in the

once removed sense – through X-ray or film). In a piece entitled ‘Remote Control’ my aim was to say that the body is like a case, containing organs, impenetrable except through the different orifices. The surface of the body gives away nothing of what lies within, it holds a secret from its very self.”

VIII.1 ‘Closely protected secret’.

Work in mixed media by Amanda Metcalf. 1993

Loaned by the artist

VIII.2 ‘Fragile veil’.

Work in mixed media by Amanda Metcalf. 1993

Loaned by the artist

VIII.3 ‘Interior galaxy’.

Work in mixed media by Amanda Metcalf. 1994

Loaned by the artist

VIII.4 ‘Dark side of the earth’.

Work in mixed media by Amanda Metcalf. 1993

Loaned by the artist

VIII.5 Jones Quain and Sir W J Erasmus Wilson, (eds)

The vessels of the human body in a series of plates. (London, 1837)

plates 17 and 18

EPB F314

VIII.6 John Lizars, *A system of anatomical plates of the human body.*

(Edinburgh, c. 1822) plate IV

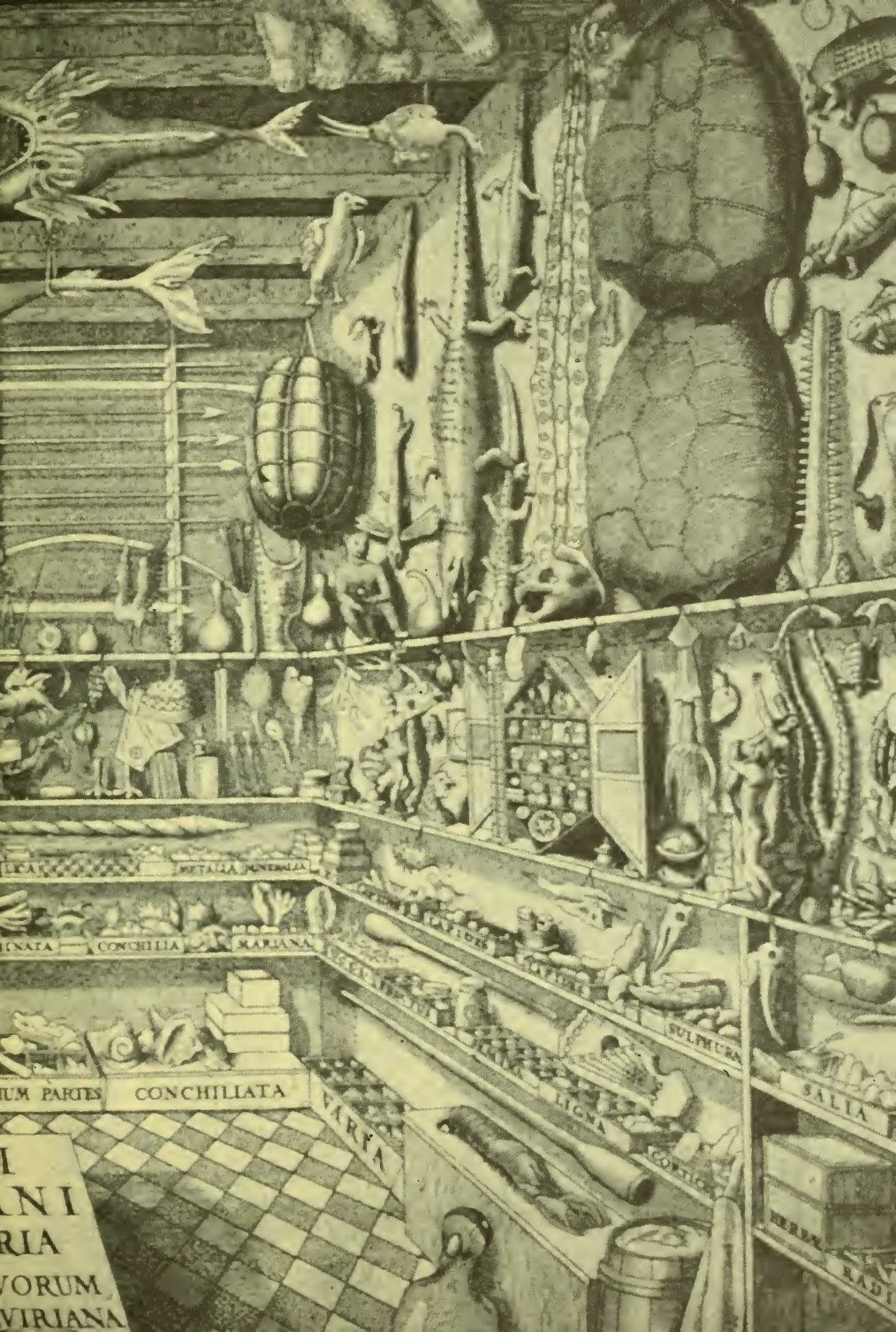
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